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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,469	04/15/2004	Joachim Hornegger	P04,0121	8130
7590 SCHIFF HARDIN LLP Patent Department 6600 Sears Tower 233 South Wacker Drive Chicago, IL 60606			EXAMINER KOZIOL, STEPHEN R	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 10/30/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,469	HORNEGGER, JOACHIM	
	Examiner	Art Unit	
	Stephen R. Koziol	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: (*See MPEP Ch. 2141*)

- a. Determining the scope and contents of the prior art;
- b. Ascertaining the differences between the prior art and the claims in issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

2. **Claims (1-3) are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Weide et al for the same reasons as set forth in the previous Office Action (Grounds restated for convenience).**

Regarding claim 1, van der Weide discloses a method for digital subtraction angiography that exploits the 3-D vasculature information inherent in computed tomographic angiography scans (pg. 831-832). Van der Weide does not explicitly disclose generating a 2-D x-ray image from the 3-D volumetric dataset obtained from the CTA scan, however, the advantage of using such 3-D volumetric dataset obtained from said CTA scan is implicit in van der Weide's disclosed method and therefore, would have been obvious and necessitated.

Regarding claim 2, van der Weide fails to teach using a C-arm CT apparatus for conducting a computed tomography scan. However, Official Notice is taken that both the concept and advantage of using a C-arm CT apparatus for conducting a computed tomography scan are notoriously well known and expected in the art, and therefore would have been obvious to incorporate the method of digital subtraction angiography for the benefit of generating a 3D volume dataset.

Regarding claim 3, van der Weide fails to teach bringing a 2D image into registration with a 3D volume set by digital image processing. However, Official Notice is taken that both the concept and advantage of using digital image processing techniques to register a 2D image with a 3D volume dataset are notoriously well known and expected in the art, and therefore would have been obvious to bringing a 2D image into registration with a 3D volume set by digital image processing for the benefit of completing the digital subtraction angiography.

Examiner's Note

3. The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.

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W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, “the prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed....” In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Response to Arguments

6. Applicant has amended claim (1) to clarify antecedent basis for the term “second 2D x-ray image.” The amendment to claim (1) does not relate to the statutory requirements of patentability.

Applicant's arguments filed August 01, 2007 have been fully considered but they are not persuasive.

With respect to claim 1, applicant highlights the absence of a contrast agent in generating 2D x-ray images from a 3D volume dataset, as indicated in claim 1. Applicant disagrees with Examiner's position that the prior art used to reject claim 1, van der Wiede, implicitly makes known the benefit of extracting 2D x-ray information from a 3D volume data set acquired via a computed tomography technique without the use of said contrast agent.

Examiner respectfully disagrees.

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With respect to applicant's allegation that extraction of 2D x-ray image data from a 3D volume dataset acquired via a computed tomography technique without the use of a contrast image is not implicit in van der Weide, examiner notes that van der Weide is absent of any explicitly mention of use of a contrast agent in generating a 3D volume dataset or generating x-ray images from said 3D dataset. In fact, Figs. 3(a) and (b), and the discussion on pp. 832-834 substantiating said figures, clearly show van der Weide acquiring a 3D volume dataset via a computer tomography (CT) scanner. As one skilled in the art would have recognized, use of computed tomography scans, as indicated by van der Weide in figs. 3 and 4 (for both the 3D dataset (fig. 3a-b) and 2D x-ray images based on said 3D dataset (fig. 3 (b) and 4)) and claimed by applicant in claim 1, by definition does not require the use of a contrast agent or any other such dye in generating the 3D volume dataset. Therefore, applicant's argument that van der Weide requires the use of a contrast agent to generate a 3D volume data set and 2D x-ray images from the 3D volume dataset is insubstantial and as such the original grounds for rejection are maintained.

With respect to claims 2-3, applicant does not challenge Examiner's use of Official Notice as applied to claims (2-3) and instead relies upon arguments re claim 1, which have been refuted above. Therefore the original grounds for rejection for claims (2-3) are maintained.

For the reasons above, all 103 rejections as set forth in the last Office Action stand.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Contact

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Koziol whose telephone number is (571) 270-1884. The examiner can normally be reached on M - alt. F 8:00-5:30 EST.

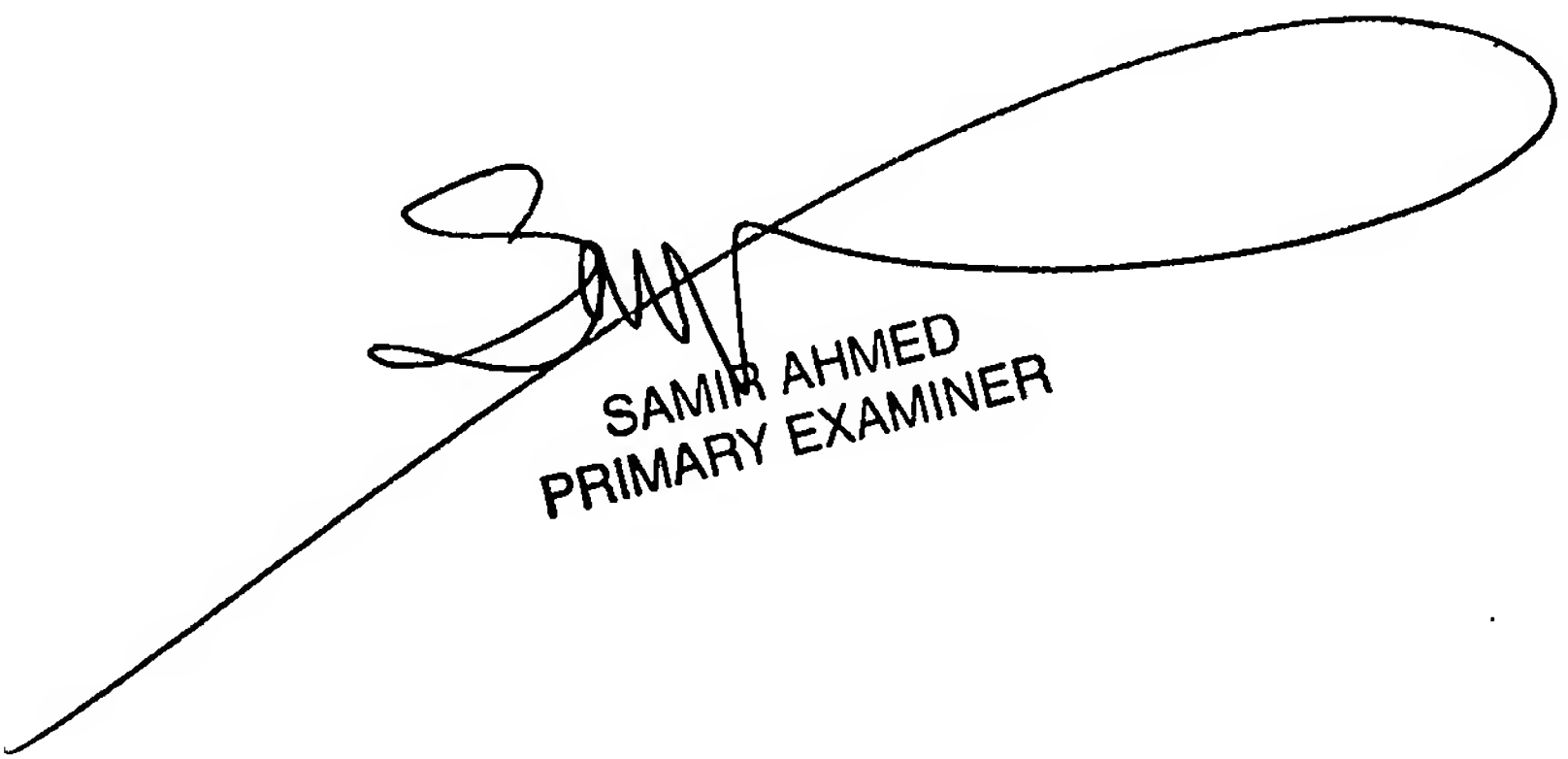
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached at (571) 272-7413. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Stephen R Koziol/

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SAMIR AHMED
PRIMARY EXAMINER